THE VETERINARY RECORD

A Weekly Journal for the Profession.

Edited by William Hunting, F.R.C.V.S.

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The Army Horse Department.

During the last week or more the newspapers of the kingdom have been full of articles on the purchase of horses for the Army. This has arisen as the result of the publication of a report by a Committee appointed to enquire into one small section of a big subject. If Sir J. Blundel Maple, M.P., had not called attention to the purchase of horses in Hungary for the Imperial Yeomanry none of this agitation would have occurred. Quite incidentally it came out that the Remount Department of the Army knew nothing about horses in Hungary and had made no enquiries. This ignorance naturally attracted attention, and the Committee commented upon it. For this one fault the press are hunting the Remount Department, and an enquiry is promised into the doings of this mysterious military ring. If the inquiry is a real one we venture to say that the press will scream much louder when the Committee report than they have over the purchases of the Imperial Yeomanry. This latter body, as every one knows, was only a scratch team of amateurs allowed to go to work in a hurry, and necessarily they bungled. But no such excuses can be made for the old established Remount Department, which has been in existence for many years and which has not had any serious hard work to do. It has leisurely purchased some 2,000 horses per annum to replace the wastage during peace time, and at least might have been expected to have laid its plans for war time, and to have collected all available information about the places from which horses could be obtained, as well as the methods to be adopted and the prices to be paid when a rush came.

As with most of our Government departments, when the time for action came nothing was ready. When the war in South Africa broke out we were told by the authorities that horses and mounted men were not required. Soon it was evident that horses were as essential as guns, and then a wild rush was made to find them. For years a system of registration had been in use by which thousands of hard-working horses would be available in an emergency. These registered horses were "fit," were in every day work and just the animals wanted for immediate work. What did the Remount Department do? Purchase the whole lot? Not at all. They sent round amateurs, who were called purchasing officers, accompanied by a veterinary officer who was instructed to pass no unsound horse. The result was that not 10 per cent. of the hard conditioned registered horses were accepted. Very few working horses, in condition, are sound in a legal or academic acceptation. They can do a long day's work on hard roads with heavy loads or at a fast pace, but they may perhaps have windgalls or spavins. These were rejected in favour of green young horses who, though sound, could not do three consecutive days work.

Then having selected the "sound" horses they herded them together on board ships with strangles and influenza patients. They were landed in South Africa in worse condition than when they left home, and, by someone's orders, sent to the front as soon as they could trot a mile and were free from nasal discharges.

The wonder is how the poor brutes ever did one day's march. Had we landed even two or three thousand seasoned horses at the commencement we should have had some time in which to condition the young ones sent after. The initial mistake of not buying every registered horse could never be repaired, because time could not be spent afterwards to give the young ones a chance.

But this was not the only error. When buying commenced in earnest for South Africa every horse owner and every dealer began to look about, and thousands of horses were ready to be submitted to the Remount Officers. Then an order was issued to cease buying, and every one subsided. Many little dealers were left with all their capital in horse-flesh a drug on the market. They sold in disgust as best they could—and had no sooner done so than there came another governmental demand for horses. Again horses were collected, and again the department suddenly ceased buying. This fluctuation, which seemed to business men arbitrary and stupid, interfered with the collection of horses and made dealers apathetic or suspicious. Of course the Remount officers were loud in their complaints of the animals offered, and as evidence of the careful manner in which they conducted their purchasing we had frequent paragraphs in the papers that 150 horses were presented for approval at such and such a place, but the purchasing officer could only accept nine. This fact was supposed to show what a lot of rascally bad horses were collected. The real explanation is that the buyers did not know what was worth buying.

Now the cry is that our officers are honourable men. No one says they are not. The accusation is that they do not know their business—that they are a set of incapables who don't know a horse when they see it. If the Remount Department is fairly tried the only possible verdict is—honest but incapable.

CASES AND ARTICLES.

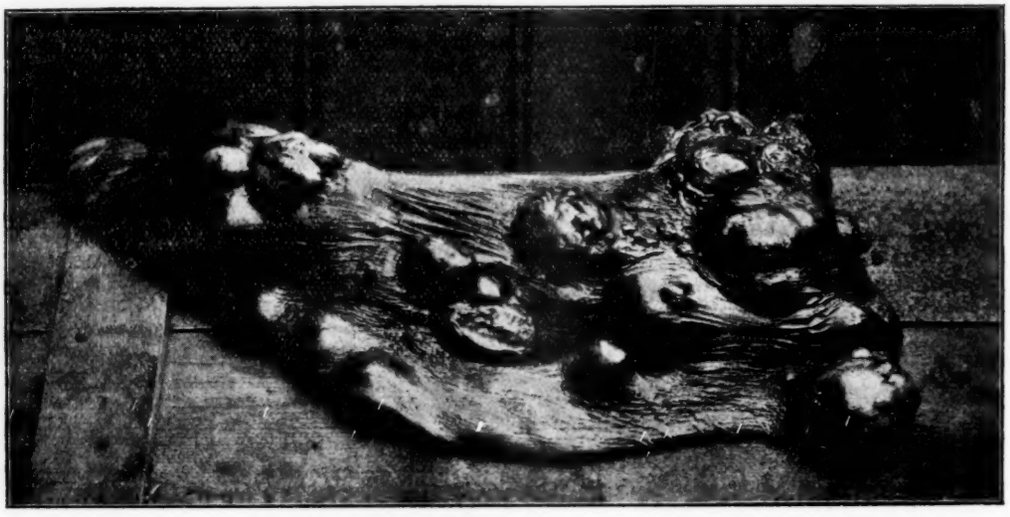
TUBERCULOSIS IN THE HORSE.

The subject was aged cart horse bought six years ago, and been in regular work ever since except for occasional periods of lameneness, but was constantly suffering from worms.

My attention was first called to the animal about six weeks ago when the horsekeeper complained that he did not feed very well and was constantly passing water. I found the horse was light in condition but that his pulse and temperature were normal and the horse seemed in good health otherwise; I examined him carefully but found no sign of bladder trouble.

After treatment for worms, I gave him a course of diuretics, but he made no improvement, and the loss of flesh and constant passing of water increased and the animal became very weak and went off his food; the owner would not continue treatment and decided to have him destroyed, but in the meantime the horse was found dead one morning in the stable and I had the opportunity of making a post mortem examination which was most interesting.

The whole of the intestinal glands were enormously enlarged and hardened, in places they were caseous and some even contained pus. The whole of the lymphatic glands of the body were affected more or less, but the most characteristic lesions were present in the spleen which was greatly enlarged and weighed 14 lbs.



I am enclosing a photograph shewing the tuberculous growths, and from which Professor M'Fadyean has very kindly sent me a specimen of the bacillus which leaves no doubt as to the nature of the post-mortem lesions.

HENRY G. SIMPSON, F.R.C.V.S.

Windsor.

ABDOMINAL WOUNDS.

On Saturday, January 18th, a collie dog was brought to the surgery in a cab. It was unable to stand and had a wound into the abdominal cavity. The dog had been found by its owner hung up on some iron railings which, it is assumed, he had tried to jump. From this position he was lifted and directly brought for attention.

From the wound about six inches of small intestine protruded. It was apparently uninjured, so after washing with a weak solution of creolin I replaced it carefully and sutured the wound with catgut. A cathartic pill was given to the dog and the owner supplied with some creolin solution, with orders to apply a little to the wound twice daily.

On Monday, the 20th, when I visited the patient he was lying and still unable to rise. Advised fomentation twice daily and the use of the creolin after.

On Wednesday, the 22nd, I called and found the dog able to stand, but as the owner said "very rocky on his legs." Ceased fomentation and continued the antiseptic.

On Friday, Jan. 24th, I called with the intention of removing the sutures, but found my patient had done this for himself. The wound was healed and the dog seemed lively and well. As I considered it out of danger I told the owner I should not call again unless he reported that some relapse or complication had occurred. Up to date nothing has impeded recovery.

Case II.—Sunday, Jan. 26th, 5 p.m.—Farm hand called to say that "either Mr. Carless or his assistant was to go to Mr. Hunt's farm at Tunnell Hill, near Worcester, he had a colt that had been gored by a cow and his bowels were hanging out." Mr. Carless being out on business, I went to attend to the colt and found all the man had said was too true. The colt had been gored on the left flank, about one foot of the small intestines and about two feet of the omentum were hanging out. The accident was newly

done, so I put a twitch on the colt with some little difficulty, as he had never had a halter on, I then washed the bowel carefully in a weak solution of creolin and returned it, I cut off the omentum close to the colt's flank with an ecraseur, sutured the wound up with cat gut, and left instructions that the colt was to be seen every hour, and if they noticed the slightest indications of abdominal pain to come for me at once. I gave the colt a draught

℞ Ether Spt. Nit. 1℥
Liq. Ammon. Arom 1℥
Liq. Ammon. Acet. 1½℥
Aqua 1 pint.

and a cathartic ball 4 drams. I left him with none too grand hopes of recovery.

I called again on Monday morning, 7 a.m. Colt on his feet and eating a bran mash, no passage through bowels, I dressed the wound with creolin. The owner seemed very well pleased, but I told him we must not shout too loud till we were out of the wood, that we should see what a day or two would bring forth.

Jan. 28th, 7 a.m.—Colt bright and feeding; passage of bowels slightly constipated. I dressed wound as before, stitches still in, considerable swelling around wound; one could not expect anything else as there was a lot of tissue torn. Colt as well as one would expect.

Jan. 29th, 7 a.m.—Colt bright and feeding well; bowels acting well; swelling on flank still as large; removed all the stitches; dressed the wound with creolin as before, wound healthy. On the whole colt improving.

Jan. 30th, 4 p.m.—Colt still doing well; temperature 102. I may say the temperature only rose a couple of degrees and that was on the second day after the accident; wound healthy, but still a lot of swelling around the wound. Dressed wound as before; I expect the swelling is due more to the want of exercise than anything else. Told owner I should see colt again on Saturday; colt looks like making a good recovery. The frost we are having at present is nothing in the colt's favour.

Feb. 1st., 7 a.m.—Colt well, wound granulated out to skin. Practically colt out of danger; left word I should not see him for about four days, but to go on keeping wound clean and dress as before twice daily with creolin. Only a matter of time now for the wound to heal.

Feb. 4th, 7 a.m.—Wound healing rapidly; left orders I should not see colt any more.

M. Graham, M.R.C.V.S.,
Assistant to W. S. Carless, Worcester.

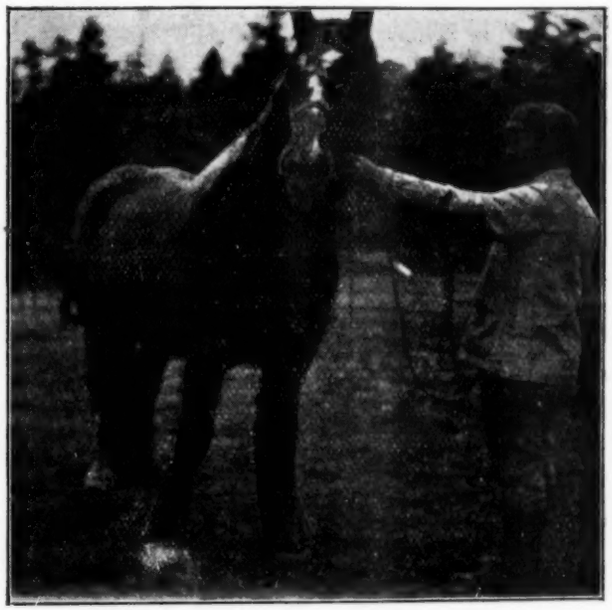
To an Absent Calf.

Despondent Calf, whose salutary ill
Round my unwilling shoulder lingers still,
What cud of bitterness, in childhood's hour,
Canst thou have chewed, to give thee thus the power
Thy black despairing to transmit to me?
Life (for a week) is empty but for thee.
Calf-love in all its pathos didst thou feel?
And did her form ultimely fade to veal?
Did a loved brother mount the fatal cart,
And didst thou pity? (Pitted now thou art!)
Thy woes perforce are mine, thou doleful beast,
Else had they stirred my fancy not the least.
I wish thee all the sorrows of thy station.
I would that I could wish thee vaccination!

St. James's Gazette A. L. G. H.

ODD LEGS.

Odd feet are not uncommon, but I enclose prints of snapshots taken some time ago of a colt which appeared somewhat of a freak to me, and to justify his description under the above title.



From the photos—taken on a very dull day and I regret not quite clear—you will notice a striking difference in the bone and hair of the legs, both fore and hind compared with each other. The colt was

what is called in Wales, "haner peth." literally "half a thing," neither cart horse nor harness horse, really a heavy vanner, iron grey in colour, two years old, and bred between a very good class shire stallion and a light legged farmer's mare. The difference between the legs both as to muscle, weight of

bone and quantity of hair was very marked to look at, so that the near legs seemed those of a cart horse, whilst the off should belong to a strong cob,

By careful measurements I found a difference of one inch directly below the knees, a little over an inch directly below the hocks, and slightly under half an inch in the middle circumferences of the metacarpal and metatarsal bones, whilst the middle measurements of both forearms shewed a difference of 1½ inch in favour of the near side. In the conformation of the quarters, shoulders, and indeed the rest of the "top" there appeared however no appreciable difference. The hair on the near side limbs was of a much lighter grey colour than on the off side, and this may have some significance as the former were the heavier limbs, since the sire was a silver grey in colour.

I should be glad to know if similar anomalies have been met with by others of your readers.

EDWARD P. EDWARDS, M.R.C.V.S.

Mold.

"A CASE OF PURPURA HÆMORRHAGICA."

It was with interest I read the article on the above by Mr. A. A. Johnson, M.R.C.V.S., in *The Veterinary Record* of 25th January last.

I have made careful enquiries regarding the eight cases of purpura hæmorrhagica which recovered, and have succeeded in tracing six of them ; these, I am pleased to be able to inform Mr. Johnson, *are none of them roarers.* The remaining two animals having left Glasgow I am unable to state whether their wind is affected or not.

Is it not highly probable that in Mr. Johnson's case roaring was due to inflammatory thickenings of the mucous membrane of the larynx and trachea, caused by the irritating action of the iodine injection and consequent coughing which was so noticeable, and may it not be only a temporary condition ?

I should fancy, like Mr. Johnson, that clients would object to tracheotomy, and should not myself advocate it, as I think it is unnecessary.

JOHN R. MCCALL, M.R.C.V.S.

Vety. College, Glasgow.

ABSTRACTS FROM FOREIGN JOURNALS.

EFFECTS OF CONCUSSION IN THE DOG.

M. Cadéac points out a curious fact that in most violent concussions the dog seldom sustains fractures, and gives three illustrative cases.

1. A setter was run over by an omnibus travelling at the trot, two wheels passing over the body. The animal got up and was at once examined, but no trace of a fracture could be found. In about 12 hours he died in a state of coma. A very small rupture of the portal vein was discovered.

2. A pointer fell off a wall about 20 ft. high. There was no fracture. He died about five hours after from rupture of the right auricle and posterior vena cava with internal hæmorrhage.

3. A large greyhound was thrown off the line by the cowcatcher of an engine running at 50 miles an hour, the only observable injury being a cut in the left flank. He died 12 hours afterwards from rupture of the anterior vena cava.—*Journal de Méd. Vét. et de Zootechnie*, August, 1901.

JOSHUA A. NUNN, Vet.-Lt.-Col.

Note.—M. Cadéac's observations are of some importance from a medico-legal point of view.

HÆMORRHAGIC DIATHESIS IN THE DOG. — By M. LIÉNAUX.

A little known affection exists in the dog consisting of the formation in the intra-digital spaces of small ovoid tumours, varying from the size of a pea to a filbert. They appear in a short time, a few hours, causing rupture of the skin and a small amount of bleeding. Sometimes the tumours subside spontaneously without hæmorrhage, but giving rise to a greater or lesser amount of lameness.

The lesion is remarkable on account of the suddenness of its appearance and its tendency to recurrence, and one or more limbs may be involved. It is suspected to be of a microbian origin, but this has not yet been proved. The following case may perhaps throw some light on this matter.

A dog used in harness--dogs are used to draw small carts in Holland and Belgium—four years of age, for a month past had suffered from nasal buccal and cutaneous hæmorrhage with hæmaturia and tumours in the interdigital spaces. The animal was in bad condition, but improved with good diet and iron tonics. The hæmorrhages, which had ceased for three weeks, again occurred abundantly, and were especially noticeable from the conjunctivæ and into the posterior chamber of the eye. Repeated hemoptysis reduced the animal to such a condition that he was destroyed.

The post-mortem showed several hæmorrhagic patches the size of a pea in the epiloon, ligaments of the bladder, pleura, and round the aorta.

The blood, with the exception of a slight degree of leucocytosis was normal, but a number of tenia echinococci were found in the intestine.

It was thought that the progressive anemia might be due to this cause. The author, however, considers that there is a connection between the interdigital tumours and the hæmorrhagic diathesis.—*Annales de Médecine Vétérinaire*, Sept. and October, 1901.

JOSHUA A. NUNN, Vet.-Lt.-Col.

A CASE OF SUPPURATIVE PLEURISY CURED BY OPERATION.—By Veterinary Surgeon G. GAUTIER.

A brown four year old mare was brought on the 3rd June, 1899, into the Clinique of the Copenhagen University.

The history was that the mare had suffered for three days from inflammation of the throat. On examining her on June 4th, the mare was dull

and listless, temp. 39 C., pulse 48, and regular; respirations laboured; conjunctivæ injected, no nasal discharge, no swelling of the submaxillary or thyroid glands; the neighbourhood of the parotid gland was somewhat swollen and painful on pressure; costal breathing proportionately equal on each side. Closer examination gave absence of respiration sounds in the lower two-fifths of the thoracic walls; on the left side the limit of the absence of sound could not be located. Half rations of food was taken by the mare without any difficulty in swallowing.

The diagnosis was double-sided pneumonia. Treatment—mustard and anti-febrin.

During the following days the appetite declined, and the region of the absence of sound ascended until it could be located half way up each side.

On June 10th the temperature was 39·5, pulse 60, respirations 22. As the giving of medicine caused much coughing the antifebrin powders were discontinued. The absence of sound now gradually declined on the right side, but remained unchanged or slightly ascended on the near side. The mare took but little nourishment, and œdema of the neighbourhood of the sternum was evident, whilst temperature, pulse, and respirations all went back to normal.

On June 17th the state was bad, temperature 39·5, pulse 84, respirations pumping and about 18. Absence of sound on one-third of the off side, and two-thirds of the near side in the field of percussion. In the upper half of both these regions there were slight friction sounds. Fluid in the thoracic cavity was diagnosed, and on the near side puncture was resorted to with the result that 31 litres (nearly 7 gallons) of clear, serous fluid was removed, which on standing only gave a small sediment. Under the microscope the sediment contained single bicocci. After puncture the line of absence of sound sank one-third. On this day the mare took a full feed of oats, but on the next day the appetite fell away again, and the line of absence of sound ascended up to two-thirds. Diuretic medicine was then given.

On June 22nd puncture of the left side was again resorted to, and 24 litres (about 5 gallons) of clear fluid removed, whereupon temperature, pulse, and respirations all became normal. The line of absence of sound declined to two-fifths, but in the next days ascended to three-fifths. The condition of the patient gradually became worse, the appetite declined and temperature, pulse, and respirations ascended.

On June 30th temperature was 39·3, pulse 96, and respirations 26. By puncturing again 28 litres of fluid was removed. The fluid contained some pus.

On July 1st, temperature was 38, pulse 54, respirations 16, appetite somewhat better. Suppression of sound in the left side one half, right side hardly a quarter. Great œdema of the sternal region. During the following days the condition improved. The appetite increased, the œdema disappeared and the absence of sound on the right side disappeared completely, and in the left side about half the field of percussion was affected. On July 15th the mare had again lost her appetite, and puncture was again undertaken and 17 litres of fluid containing much pus removed.

During the following 14 days the state of things grew worse, but during the 15th and 16th days there was an improvement. As the character of the fluid removed became each time more pus-like, and as a recovery did not seem probable, Gautier advised the owner to have the emaciated animal killed. Because the mare was a valuable one the owner expressly desired Gautier to continue treatment. Gautier now resolved to perform the operation for empyæmia.

On July 29th the operation was performed. The temperature before operation was 39·6, pulse was 80, respirations 40 per minute. The mare was cast on the off side and chloroformed. The field of operation was shaved and disinfected and the skin incised for a distance of 12 cm. between the 6th and the 7th rib in the lower third of the chest wall. A sound was passed into the thoracic cavity, and the opening enlarged by means of a bistouri and guarded bistouri so that four fingers could be inserted. With a bone saw a piece of the 7th rib about 8 cm. long was removed so that hand and arm could be admitted into the thoracic cavity. With the inserted hand a large mass of membranes and coagula were loosened and removed. Altogether 30 litres (about 6 gallons) of purulent fluid was removed. The pleura was adherent to the piece of rib removed by thick fibrous adhesions. The thoracic cavity was irrigated with 3 per cent. of carbolised water. After taking off the hobbles the mare stood quietly and was taken into a clean box. The wound was covered with a layer of wadding fastened to the side by means of linen bandages round the breast. The mare did well after the operation. The temperature rose somewhat on the evening of the next day, but on July 31st stood at 38·1 and afterwards never rose above 38·5. The pulse on July 31st was 56, and the respirations 22 per minute. These numbers gradually declined to normal. The appetite improved wonderfully and remained good during the whole period of convalescence. The wound was cleansed daily during the first days with carbolised water, and later with creolin and lysol water. The operation wound decreased in size and the mare's condition visibly improved.

On September 9th only a small discharge from the wound into which two fingers could still be inserted. The mare ate three-quarters of a bushel of oats daily. She carried herself gaily at the trot.

On Oct. 7th the mare left hospital. The operation wound was then large enough to admit one finger but its depth was very little. The mare trotted away under her rider without any shortness of breathing.

On December 24th Gautier saw the mare again when she was lively and in good condition. The operation wound had not completely healed and at the beginning of movement there was a slight discharge. A fine probe could not be passed into the wound. On this account it might be better to invert the edges of the wound when operating. In April, 1900, the mare was sold and was travelling 10 miles daily.

On July 12th Gautier saw the mare again for the last time when she was in good condition, but the small fistula still existed. The owner was wonderfully pleased with the operation. The above opera-

tion shows that thoracotomy with resection of a piece of rib can be performed in the horse as in man. On economic grounds the operation cannot be recommended, but as a last resort in valuable animals is acceptable.—Ex. *Berliner Thierärzt Woch.*

G. M.

TRANSMISSION OF MALIGNANT JAUNDICE OF THE DOG BY A SPECIES OF TICK.

By Chas. P. Lounsbury, Government Entomologist.

Twelve years ago, Smith and Kilbourne, officers of the United States Department of Agriculture, in an investigation of the widespread and severe cattle malady known in America as Texas fever and in South Africa as redwater, made the astonishing discovery that the disease owed its dissemination from animal to animal to the agency of a species of tick, *Rhipicephalus annulatus*, Say (*Boophilus bovis*, Riley). They found that the causal organism of the disease, named by them *Pyrosoma bigeminum*, persisted in the blood of cattle which had recovered from the disease or had become naturally immune to it as long as they remained subject to the attack of the tick; and that the progeny of the ticks from such immune or salted animals were pathogenic to animals susceptible to the disease. That the tick was responsible for spreading the disease had long been claimed by cattlemen, but for several years after the seemingly convincing experiments of Smith and Kilbourne, most scientists remained incredulous. The rôle claimed for the tick was too romantic for their comprehension. The visible organisms of the disease are rare in the blood of immune animals and none may be discovered in the course of daily examinations for weeks at a time; and it is indeed wonderful that the infection, even though it be much, that is imbibed by the female tick in her feeding can be transmitted to her multitudinous eggs, thus become present uninjured in the minute larvæ, and then later, perhaps months after the mother tick left the host, be transmitted by a few of these larvæ to a susceptible animal with fatal effect. But Smith and Kilbourne's experiments admitted no other hypothesis than this, and in the last five or six years their findings have been amply verified by carefully conducted experiments in Australia, Africa, and South America.

Observed Transmission of a Dog Disease.

The subject of these notes is the observed transmission of a dog disease in an analogous manner. This disease is known under several names by veterinarians, as for instance, bilious fever, and malignant malaria, but the term here adopted, malignant jaundice, is the one preferred by Dr. Hutcheon, the Colonial Veterinary Surgeon. Cape Dutch apply to it the vague name "hondziekte"; while colonials of British birth often speak of it as "distemper" under the mistaken impression that it is identical with a canine malady of that name that occurs in England. Dr. Hutcheon records in his annual report for 1899 that malignant jaundice was first brought to his attention at Port Elizabeth in 1885, and that it has since reached Cape Town, and spread to various parts of the Colony and adjacent territories along the main lines of traffic. It now ranks as the most fatal form of disease affecting dogs in the Colony. The animal attacked first shows its illness by a rise of temperature. It loses appetite, becomes listless, and lies quietly in one position for hours at a time; soon it refuses to eat at all but may drink much water. The gums and mucous membrane of the mouth become pale and bloodless, and the breath takes on an unpleasant odour. The thin skin of the abdomen often becomes yellowish, the discolouration being due to jaundice of the fatty tissue beneath. If the blood be superficially examined it is seen to be thin and watery. At a late stage the urine becomes dark red or brownish; this is a most unfavourable symptom and an animal which shows it has little chance for recovery. Some dogs die within twenty-four hours of indicating illness by their appearance, but most generally linger on for five days or more and seem to die from sheer exhaustion.

Disease Similar to Redwater.

The similarity of the disease to redwater in cattle was noticed by Dr. Hutcheon from the first; and hence he was not surprised when, about two years ago, he submitted diseased blood to the Colonial Bacteriological Institute for examination, to learn that the red corpuscles enclosed organisms very similar to those found with the cattle malady. At once the suggestion occurred to him that as redwater was spread by ticks malignant jaundice was probably spread in the same manner. I was studying ticks at the time with relation to a sheep disease and naturally became interested in the possible connection of the subjects of my studies with this other disease. Thus was prompted the experiments that have followed.

Habits of the Dog Tick.

Ticks are not uncommon parasites of the dog but all that I have taken from this animal in the western part of the Colony have been of a single species, *Hæmaphysalis leachi*, Audouin (determined for me by Professor G. Neumann, Toulouse, France). Consequently suspicion at once attached to this species as the possible agent for transmitting the disease. This dog tick differs widely from the cattle tick in some of its habits and one essential difference is in regard to its place of moulting. Like all other Ixodinæ, both ticks pass through three active life stages, larval, nymphal, and adult. Preparatory to the transformation from one stage to the next, the feeding of the tick is suspended; then after an interval of variable duration the old skin is ruptured, the tick crawls from it and very soon seeks to renew its attack. The cattle tick normally stays on one animal throughout the various changes. It remains attached to the skin by its rostrum after it suspends feeding both as a larva and as a nymph, and hence on the completion of the moult which follows, it has only to reattach itself to the animal by its new mouth part, an act which it performs almost at once. The dog tick, on the other hand, perhaps because it infests an animal more energetic than an ox in locating and destroying skin parasites, has the habit of invariably loosening its hold and seeking shelter in the ground as soon as it ceases feeding before a moult; and in consequence it has the trouble of finding a host three times in its life instead of once as with the cattle tick and more often than otherwise a different dog is found each time. The females of both species fall to the ground when they are replete with blood and perish soon after laying their eggs. The cattle tick, thus debarred from attacking more than one animal, can only transmit any pathogenic organism it may imbibe by passing it on to its progeny, a process which requires many weeks or months for its completion; whilst the dog can, perchance transmit an organism imbibed in the larval or nymphal feeding stage to another animal in its own subsequent attack a few weeks later. Transmission in the latter way is a plausible proposition compared to that of transmission through the eggs, and was made the basis of my first experiment.

First Experiment.

Larval ticks for the experiment were obtained by the incubation of eggs laid by ticks taken from a healthy dog at Wynberg by Mr. B. M. McMillan of the Department of Agriculture. As soon as the eggs began to hatch

a young dog was infected with the disease by inoculation with virulent blood, this initial operation being done by Government Veterinary Surgeon W. Robertson on November 21st, 1900. Two days subsequently and each day thereafter to the animal's death numbers of the larval ticks were applied. On November 25th, the dog became very ill and on the next day it died. the cause of death being attributed to malignant jaundice, after microscopic examination of the blood. The ticks, fully engorged as larvæ, had begun to fall two days after their application, but only those which fell after the animal had become visibly ill were saved for the test. These to the number of fifty moulted a fortnight later, and on December 14th, by which time they had become very active, they were liberated on a healthy dog. This second animal proved too strong and too noisy to allow of his being kept in close confinement, a condition necessary for tne proper recovery of the ticks, and none of those applied were again found ; however there is no reason to suspect that they failed to engorge themselves. The dog was kept under observation for ten weeks without the appearance of a suspicion of the expected disease. It was intended to keep it until its susceptibility to the malady could be demonstrated by the inoculation of virulent blood, but no source of blood became available. Meanwhile the shed in which this and other dogs were kept became terribly infested with rats and fleas, and this condition, in connection with an outbreak of plague in the near vicinity, led to the destruction of all the dogs and the temporary closing of the premises. Though inconclusive because the ticks were not actually recovered and because the dog was not proved susceptible, the experiment is an indication that infection taken up by the larva is not transmitted by the nymph.

The Second Test.

The second test was made with larvæ of ticks from presumably pathogenic sources. The progeny of the common cattle tick from an immune ox that has had redwater, it has already been stated, are pathogenic to susceptible cattle ; and by analogy it was presumed that progeny of dog ticks from a salted dog might also be pathogenic. Engorged females were obtained, December 16th, 1900, in Rondebosch, from a dog said to have suffered a severe attack of the disease some time before. At the same time a single partly engorged female was found on a dog then suffering from an attack. These ticks were kept in petrie dishes in the office and all began to oviposit within the next ten days. The larva began to appear on January 14th, and a young dog that I knew to have been healthy from its birth was at once caged for the experiment. The original intention was to keep the two lots of ticks, those tracing from the salted dog and those from the sick one, distinct and to rear them on different dogs ; but a mishap made it uncertain that either lot was absolutely free from any of the other, and the two were consequently applied to the one animal.

Experiments Continued.

Successive applications were made as before, the first and largest of which was on January 21st. The dropping commenced on the third day and was very satisfactory, some hundreds of the tiny creatures being recovered uninjured. Several weeks passed without any symptom of illness being evidenced, and it then seemed as if the ticks must be quite innocent of the charge preferred against them. The larvæ moulted in due time and as nymphs were applied February 11th. The nymphs filled out rapidly ; some were replete with blood and off by the expiration of forty-eight hours. More now with the object of tracing the round of life of the tick than in the hope of observing any connection between it and malignant jaundice, the nymphs were recovered and carefully tended during the metamorphosis to the adult condition. The first moulted March 4th. On the 11th a number were placed on the dog and more were added at intervals of a few days during the following fortnight.

The duration of the stay on the host is much longer in the adult than in the earlier feeding stages. No females have been observed to drop off before the ninth day and many remain much longer, the time probably depending somewhat on the visit of the male ; the males may stay on many weeks.

Malignant Jaundice Transmitted.

On April 2nd, three weeks after the first application of adult ticks, the dog was noticed to neglect its food but its condition was thoughtlesly attributed to its prolonged confinement ; so much had it been handled and examined for some weeks that loss of appetite excited no interest and caused no suspicion of malignant jaundice. On the 5th, it refused to eat altogether. The Easter holidays then intervened and it was the 9th of the month before the affection was authoritatively determined by Dr. Hutcheon as the disease in question. Mr. Robertson made smears from the blood and found the typical pyriform organisms present. Later the dog was chloroformed to end its misery ; the viscera were examined and their appearances made it all the more certain that the determination of the trouble as malignant jaundice was correct.

The Source of Infection.

Judgment as to the source of infection was reserved. No other possible source than the ticks of which we were cognizant had been present but it seemed incredible that the organism had not only been transmitted by the original ticks to their progeny but had existed in the latter through the larval and nymphal stages and had only been passed on to the animal when the adults fed. And, too, the period between the first application of the adults and the appearance of the disease was much longer than we had reason to suspect the normal incubation period to be ; this objection had little weight, however, as it was quite possible that only the ticks tracing to the sick dog, and these were few in comparison with those tracing to the presumably salted dog, were pathogenic and that none of these were amongst those applied first.

The Experiment Duplicated.

Fortunately two engorged female ticks were still clinging to the dog at the time of its death. These had been on all through the illness, and from them were reared young ticks to duplicate the experiment. Mr. Robertson at this time became keenly interested in the work and arranged to follow the bacteriological side while I attended to the tick phase.

The ticks began to hatch early in June. Two fox terrier pups, born about May 15th, were found for them and by microscopic examination of the blood, Mr. Robertson made certain that as we got them these dogs were quite free of the disease organism, and through the entire experiment they were kept under conditions which appeared to us sufficient to exclude all accidental sources of infection. For convenience we called them Nos. 1 and 2. Until July 25th they were kept in the office building and thereafter over a cement floor in a corner of our new experiment shed, which is located on the proposed site for the Supreme Court building in the centre of Cape Town.

No. 1 was infested with the presumably pathogenic larvæ on June 15th and 20th. Above two hundred of the ticks were recovered when they dropped a few days later. Some of these were placed in an incubator heated to 85 to 90 degrees to hasten the development which at this season of the year is normally slow, and the rest were left to develop at the office temperature. The former moulted as quickly to the nymph stage as if it were the

summer season, and were then placed on the same dog July 25th. The recovery was again satisfactory and by the use of the artificial heat the transformation to the adult stage secured about three weeks later. Meanwhile no manifestation of infection was shown by the dog, neither by the blood examinations which were made frequently by Mr. Robertson nor by the body temperature which I had taken regularly morning and night. As adults the ticks were applied August 27th.

No. 2 was kept in the cage with No. 1 whilst the latter was infested with the larvæ and probably was bitten by some of these. It was isolated, however, when the nymphs were applied to No. 1 on July 25th. Between July 31st and August 3rd it was again kept by itself and exposed to larvæ from a mother tick taken from a very sick dog that will be alluded to in a later paragraph; fifty of the larvæ were recovered but at once destroyed. On August 28th it was again isolated for a day and infested with the ticks which after feeding on No. 1 in June had been left to develop at the office temperature. Then it was put back in the pen with No. 1. All along this dog like its mate had been carefully watched for symptoms of infection.

Infection again Transmitted.

The adult ticks applied August 27th to No. 1 did not all remain on this animal. I had expected and wished them to remain so that should they prove infective, the dog would be taken ill whilst its playmate, No. 2, remained healthy, even though infested with nymphal ticks of the same lot at about the same time. The adults, however, chose to migrate, and more were found on No. 2 after a few days than were left on No. 1. The former dog had much the longer hair and this may have had an influence. No rise of temperature was noticed up to September 7th, a Saturday. That afternoon the assistant who took the temperatures over Sunday had the misfortune to drop and break the thermometer, and it followed that no observations were taken until I came on Monday morning. Then both the dogs were found to have a body heat of 105 degrees though in appearance and behaviour they still seemed perfectly well. Blood was at once examined and the causal organism of malignant jaundice found in that of each animal. No trace of it had been found at the last examination made on the previous Wednesday. The disease progressed with remarkable rapidity showing that the infection must have been most virulent. In twelve hours both dogs were prostrated, and early on the following morning No. 2 died. No. 1 lived only half a day longer. Before death both dogs passed reddish urine; and the post-mortem examinations revealed the characteristic lesions of malarial jaundice.

All Doubts Removed.

There was now no doubting that the ticks transmitted the infection. As before the disease had not appeared until the ticks became adult, although the infection must have been contracted through the parent tick and have persisted within the bodies of those transmitting it through the larval and nymphal periods. The only theory to suggest itself in explanation of the retardation of the transmission was the plausible one that young dogs such as those used were when the experiment began might be naturally immune, but that this immunity passed off in a few months. In support of this theory was the common observation of dog owners that suckling pups are not noticed to contract the malady; and the fact that in redwater calves born and brought up where the disease is endemic acquire immunity without showing perceptible illness. If sucking pups were not immune, then it seemed certain that the progeny of a tick from a diseased dog was by nature incapable of transmitting the infection until the adult stage was reached. The question admitted of easy solution; we had only to inoculate a sucking pup with virulent blood. And at this time through the kindness of the Medical Officer of the Colony a litter of Irish terrier pups was placed at our disposal.

Experiments with Puppies.

One of these helpless puppies, which at the most was not three weeks old, was inoculated with 2 c.c. of blood from No. 1. The injection was made beneath the skin. At the same time, September 9th, a mature dog was inoculated as a control animal with 3 c.c. of the same blood injected into the jugular. The large dog was called No 3, and the pup No. 4. Intravenous inoculation brings on the fever much more quickly than subcutaneous inoculation, but one method seems as fatal as the other. The organism of the disease was found in the blood of No. 3 on the fourth day, and in that of No. 4 on the 6th. Both dogs succumbed, No. 4 on the 8th day from inoculation, and No. 3 on the 11th.

Facilities for a further demonstration that young dogs as well as adult dogs are susceptible, and that it is only the adult tick that is responsible for the transmission were at hand. Dog No. 2, it has been recorded above, was infected with nymphs on August 28th. These ticks were recovered August 31st, several days before any evidence of the approaching illness; therefore, if they contained the organism at all it was still as an inheritance from the parent ticks. These ticks were kept in the incubator and soon transformed to the adult stage. Clearly, if they were capable of infecting such a young dog and an adult dog, the inference from the other tests would be verified.

No. 6 dog, a sister pup to No. 4, and No. 8, an adult dog procured from the town dog pound were infested on September 23rd, each with five male and five females. No. 8 had been under observation since September 13th and was kept in what we call the "old shed." No. 3 dog had been confined in this place during its illness and a year before there had been half a dozen or more cases of malignant jaundice there; all, however, had been from blood inoculation and a number of dogs had been subsequently kept in the place without any disease appearing amongst them. Altogether there was little reason to expect any chance infection in the shed, but to make the result more striking, two control dogs were chained near No. 8. The pup, No. 6, was brought to the office and placed in a cage that had never been used to confine an animal before. It was fed on condensed milk only so no infection could possibly come with its food. Six days after the first ticks were applied, twenty more ticks, evenly divided between the two sexes, were liberated on No. 6; these were put on that I might be more certain of getting engorged females for future work when the animal sickened. Eleven days after the application of the ticks, that is on October 4th, the temperature of No. 1 indicated fever, and an examination of the blood disclosed corpuscles containing the organism. On the next day, the temperature of No. 6 went up and the organism was located in its blood. The latter dog remained active and ate its food for a few days and then, on October the 8th, became prostrate; and on the next day it died. The larger dog remained in fever five days without entirely refusing food; the fever then subsided but only to come on again two days later; the animal then became very ill, and on the morning of the 15th, it was found dead. The two control animals remained perfectly well. And it may be here mentioned that for six or eight months twelve to twenty dogs have been kept in other sheds in the same yard by the Medical Officer's Department without there having been any cases of malignant jaundice among them.

The Case Proved.

Thus it appears satisfactorily demonstrated that the common dog tick at the Cape, *Hæmaphysalis leachi*, Audouin, transmits the infection of malignant jaundice

through its progeny; and that such progeny normally remains incapable of transmitting the infection it inherits until it attains the adult stage. That the infection passes through the egg stage is a fact not unparallelled and and therefore not surprising; but that it is harboured through two feeding stages without being transmitted is at present wholly unique, and is a fact that considerably strengthens the inference that in this disease and redwater the ticks are not merely carrying agents, but are secondary hosts for the protozoan parasites.

Fleas Exculpated.

The fact that the dog tick transmits malignant jaundice does not exclude the possibility that other blood sucking parasites also act as transmitters. At the beginning of the investigation, Dr. Hutcheon suggested that fleas were quite as likely concerned as ticks. But much circumstantial evidence that has come to my notice tends to exculpate fleas. *Pulex serraticeps* in this country is exceedingly common on dogs, and were it capable of carrying the disease one would expect that our dogs would be soon practically exterminated. The dogs kept in the old shed last year were stray mongrels from the streets and one and all were terribly infested with fleas. The dirt floor of the shed proved a happy breeding ground and so abundant did the creatures become that a person could not enter the place without having scores of them attach to his clothing. As already stated the only cases of malignant jaundice amongst these dogs arose from blood inoculation. If fleas could have spread it, it is wonderful that an animal escaped. Again dog 4 of the experimental series was purposely put back with its mother and three sister pups, and it remained with them in the same box up to its death. Fleas were on all and to give them ample opportunity to communicate the disease they were not disturbed, the regular washing of the pups before practised being discontinued for several weeks. Sufficient time for a generation of fleas has elapsed but there has been no outbreak of the malady.

Lice, too, may be suspected of being concerned, but lice as well as fleas were on No. 4 dog. Also the observation that cases of the disease are rare amongst suckling dogs is of its self indicative that fleas and lice are not agents; young dogs suffer from lice and fleas as much or more than adult dogs.

The pen in which Nos. 1 and 2 were given the disease and in which they died was left uncleaned, and three days later a young pup, No. 7, was enclosed there and has remained to date in perfect health.

Ticks on the Veld.

Circumstantial evidence inculpating ticks is not wanting. The dog owners who get experience with malignant jaundice are those who allow their dogs to run on veld, where, because conditions suit them better, ticks are far more common than in towns. Cape Town dogs are practically exempt from the disease, but in parts of Rondebosch and Claremont not many dogs escape it. Cases amongst Cape Town dogs can usually be traced to walks up the Kloof or along the mountain sides. A typical instance of veld infection came to our notice during the course of the experiments. Mr. E. Pillans, of the Agricultural Department, visited a Stellenbosch farm on a hunting trip during the Easter holidays and took with him a pointer dog. On his return, April 9th, I asked if he had seen any ticks and he replied that his dog had come back "full." An examination of the animal disclosed a number of both sexes of *Hæmaphysalis leachi*. On the 26th of the month I learned that it had been ill for several days, and suspecting the cause, reported it to Mr. Robertson, who immediately made a microscopic examination of the blood with the result of discovering the causal organisms of the disease in question. The attack proved fatal and from the dead body was obtained the tick whose progeny was applied in No. 2 dog on July 31st. There were four or five dogs at Mr. Pillans' residence but none took the disease from the sick one as would have been likely were it contagious or even transmitted by fleas. An interesting feature of this case of malignant jaundice is that it was a second attack; the first attack, Mr. Pillans tells me, occurred two years ago and like the subsequent one followed close on a hunting trip to the same Stellenbosch farm. I have heard of other instances of dogs having suffered two severe attacks separated by a long interval of time, and one is inclined to infer the probability of practically continuous infestation by ticks being a necessary adjunct to complete immunity, as is known to be actually the case in redwater.

It must not be inferred from anything that has been said that all adult specimens of *Hæmaphysalis leachi* harbour the parasite of malignant jaundice. That the species is normally non-pathogenic, I have no doubt; I have picked many mature female specimens from dogs that were said to have never had the disease, and particularly recall the case of a pet dog on which ticks were frequently seen but which escaped the disease until it was three years of age.

The dropping of the ticks from the animal after the feeding periods greatly increases the labour of demonstrating that the disease is transmitted by them; but the habit has compensating advantages to the experimenter. For instance, it can be utilised to determine whether both sexes or only the female transmits the disease. If one sex only is the agent, the proposition that not any blood-sucking parasite but a particular kind, perhaps this particular species, is necesssary as the natural transmitting agent will be much more acceptable than with the present knowledge. It is proposed to test the sexes separately as soon as ticks for the purpose can be reared.

Either that the males are not an agent or that direct transmission by the subsequent attack in the same feeding stage is abnormal appears to be indicated by the negative result of one recent test. The males of this species of tick, it must here be explained, roam about the host more than appears usual with ticks, and when the animals grow cold in death most of them leave of their own accord. Twelve males which loosened from No. 6 dog as it was approaching death were collected and were placed, October 9th, on No. 7. They attached to this dog at once and at least six of them are still on (Nov. 10th), but no disease has been produced.

The bacteriological and veterinary phases of malignant jaundice are omitted from consideration in this paper, as all the observations in these regards have been made by Mr. Robertson. It may be mentioned, however, that thus far he has not been able to clearly identify any body he finds in the ticks with the organisms so abundant in the blood of diseased animals as has been done in the case of the malaria organisms in the mosquito. Ticks present difficulties to the microscopist quite absent in mosquitos.—*The Agricultural Journal* (Cape).

GOVERNMENT ASSISTANCE IN HORSE BREEDING.

That horse breeding as an industry has suffered great depression for many years is a fact acknowledged on all hands, and the reasons for it are not far to seek. In the first place it does not pay, and this in itself is a sufficient reason why farmers should abandon the practice, but the reasons why it does not pay are not quite so obvious. Pessimists declare that the horse is a thing of the past, that bicycles, motor-cars, and electric traction will drive

him off the road ; that they have had an effect in lowering the price of certain classes of horses is beyond dispute, but whether that depression will be permanent is quite another matter. Our grandfathers were told the same thing when railways first came in and road coaches were superseded. The primary effect was to destroy the market for coach-horses and posters, and make it no longer profitable to the farmer to produce them. The farmers sold their mares, many of the best of which went abroad, and the country lost a strong, hardy race of horses with a fair amount of quality and pace, the mares of which would, at the present time, be invaluable for breeding purposes. But, in spite of all this, the demand for horses kept steadily increasing. For every team of wagon horses gone from the country roads there are three teams working in London and other large towns. In the same way the market for first-class hunters and carriage horses has enormously increased, and there never was a time when really good specimens of either class commanded such high prices as they do at the present time. Yet, in spite of all this, the fact remains that horse breeding all round does not pay. Two other causes are assigned for this, firstly, foreign competition, and secondly, an actual deterioration of our home stock. Foreign competition in horse breeding is a factor which will always have to be faced. It mainly affects the cheaper class of horse, and herein is probably its greatest injury, since, however successful a breeder may be, he must get a certain proportion of what may be styled misfits, and it is these which have been so seriously depreciated in value. So long as a breeder could dispose of his misfits at a price which approximately paid expenses, the profits on his successes made breeding a fairly remunerative trade, but when a small number of profits have to be set against a large number of losses, the result is far otherwise.

Coupled with these causes is the fact that over England and Ireland alike the severe wave of agricultural depression has reduced the farmers' capital and rendered them adverse from embarking in a business which must be at the best of times a speculative one. Want of money has operated in three ways. It has prompted the farmer to sell his best fillies, a large proportion of which being bought by foreigners go out of this country, and are not only lost to us, but actually help foreign breeders to compete with us. The result of this is particularly evident in the case of harness horses. Although the demand for high-class pairs fit for park work was never greater than at present there are very few of this class of horse bred at home, the majority coming from abroad, and in a large number of instances tracing back to the expatriated mares of our old coaching stock. Secondly, the farmer is loth to put his hand in his pocket to obtain the services of the best stallion available, and as a very experienced correspondent pointed out in these columns a few weeks ago, will frequently prefer to patronise an inferior, even an unsound one, if a pound or even a few shillings can be saved. Thirdly, the farmer cannot afford to keep such good horses for his own use, either for riding or driving, as he did in days gone by, with the result that the younger generation of farmers is not nearly as good a judge of a horse, or as knowledgeable about breeding as their grandsires.

These are the main causes which have brought the industry to its present lamentable condition.

Is this state of things irremediable and if not, how is it to be remedied? The question is one of national importance, and miles of print have been written about it by some having knowledge, and by many having none. Everyone agrees that something must be done, but as to what to do, and who is to do it, no two people agree.

Is the Government to find money, and how, and by whom is it to be administered? This seems to lie at the bottom of the whole matter, to the first part of the question an affirmative answer will be given by everyone, something must be done and nothing can be effected without money, while there is no visible source from which the money is to come except the Government. As to how and by whom it should be administered, opinions will differ, and it will, with a view to throwing light upon this question, be useful to examine into what has been done in the past, what is being done now both at home and among foreign nations, and as to the various fundamental principles of breeding which have been proved by experience to conduce to success.

In the last century the era of horse shows began, and has had a most important effect on the industry, both by giving prizes and by setting before the breeder a standard to aim at. But shows come under the category of private enterprise, and therefore in England it may be stated broadly, that up to the present time the important industry of horse breeding has been left almost entirely to private enterprise. In Ireland, the case is somewhat different, and there has been frequent Government assistance given to breeders. How far this has conduced to the production of that magnificent animal the Irish hunter, and how far the processes adopted are worthy of imitation deserves a more extended examination. After which it is proposed to see what lessons can be learned from the practice of foreign Governments.—*Land and Water.*

PURCHASE OF HUNGARIAN REMOUNTS.

Committee's Report on Sir J. B. Maple's Charges.

The report of the Committee appointed by the House of Commons to inquire into "certain allegations as to bribes given to British officers in relation to the purchase of horses in Austro-Hungary, made by Sir Blundell Maple, M.P., and to hear such evidence as may be tendered in support of them," has just been issued as a Blue book.

With regard to the question of bribes the report says: We think it right to say at once that, having examined a number of witnesses and considered the documentary statements laid before us we believe that there is no justification for any charge of bribery or corrupt dealing against any British officer employed in connection with the purchases in question. Whatever errors of judgment may have been committed we believe that the officers concerned were solely actuated by the desire to do their best for the public service. The only specific case which seemed at first sight to require explanation arose out of a misapprehension as to the position of Capt. Hartigan, an ex-Army veterinary officer who retired from the service in 1881. And Captain Hartigan's personal position in the matter was explained to the satisfaction of the Committee. In December, 1899, he, being then in no way connected with the public service, was the means of introducing to Colonel St. Quintin, the remount officer on the Imperial Yeomanry Committee, a Mr. Lewison, who obtained a contract for the supply of Hungarian cobs to the Imperial Yeomanry. In consideration of his assistance in obtaining the contract Mr. Lewison undertook to give Captain Hartigan a commission of 2½ per cent. on his contracts. Mr. Lewison received under his contracts close on £111,000, and therefore Captain Hartigan must have become entitled under this arrangement to a very considerable sum. After the contract was made Captain Hartigan was employed by Mr. Lewison at a fixed salary to accompany him to Hungary and to assist in the selection of cobs, which were subsequently examined and passed by the Imperial Yeomanry Inspector, Colonel Maclean, and his Veterinary Officer, Captain Webb. When Captain Webb left Hungary for South Africa, having examined some 2,300 out of the 3,800 cobs which were to be supplied under the contract, Captain

Hartigan was employed by the officers in authority to examine the remaining 1,500 cobs. On taking up this work Captain Hartigan terminated his employment under Mr. Lewison.

With regard to the purchase of Yeomanry horses, the committee is satisfied that the urgency of the demands and the extreme pressure rendered the position difficult, at the same time it expresses regret that more steps were not taken to ascertain what was a reasonable price in Hungary for the horses purchased, and the position and capacity of the contractors to undertake large contracts without resorting to middlemen. If the first contract had been made on the same terms as a later one, it is pointed out, £12,000 would have been saved.—*Westminster Gazette.*

THE ANNUAL REPORT OF THE MEDICAL OFFICER OF THE ADMINISTRATIVE COUNTY OF LONDON.

Dairies and Cowsheds.

The first subject dealt with in the administrative section of Mr. Shirley Murphy's annual report for 1900 is dairies, cowsheds, and milkshops. The enforcement of the regulations relating to these was transferred on November 9th, 1900, from the County Council to the Metropolitan Borough Councils. Prior to this Dr. Klein examined for tubercle bacilli 97 samples of milk taken in London, but coming from the country, and 7 of these were found to contain them. The sanitary authorities of the districts from which the milk was derived were written to, in accordance with the recommendations of the Royal Commission on Tuberculosis, and asked if they would supply the Council with full information and veterinary reports regarding the condition of the cows, byres, etc., whence the milk came. Of the seven authorities, two sent reports of their sanitary inspectors, a third offered to obtain a veterinary surgeon's report at the Council's expense, a fourth had the cows examined by a veterinary surgeon, who found no evidence of tuberculous disease of the udder. This authority asked the County Council to repay the veterinary surgeon's fee! A letter was sent to 374 sanitary authorities in the home counties, asking them if they would supply full information and veterinary reports when tuberculous milk was found to be supplied in London from cows within their districts. To this request 64 authorities agreed without conditions, 12 agreed if the County Council would pay for the veterinary inspection; and four replied in the negative. We cannot wonder then that the County Council resolved to ask the Board of Agriculture to take steps to render the periodical examination of the udders of cows by veterinary surgeons obligatory throughout the country.—*B.M.J.*

[We wonder what reply the Board of Agriculture made to the London County Council.—Ed.]

MODERN METHODS OF VACCINATION AND THEIR SCIENTIFIC BASIS.

At the Royal Medical and Chirurgical Society on Tuesday, January 28th, F. W. Pavy, M.D., LL.D., F.R.C.P., F.R.S., President, in the Chair,

Dr. Sidney Coupland, in resuming this discussion, referred to the great improvement that had supervened in modern vaccination methods, mainly as a result of the introduction of glycerinated lymph. The objects of recent improvements had been to obviate the risks of the process, and there had been the even greater advance in having vaccination performed at home and in raising the age of the children required to be vaccinated. The vaccinal injuries had been in the past, perhaps, too lightly considered by the profession. In the majority of cases with ill-effects it had not been the lymph which had been at fault. Large unsightly scars were unnecessary, and were often associated with inefficient vaccination. The scars from purified lymph were often small, and did not even present the size which was formerly supposed to be an essential index of good vaccination. Indeed, probably now the number of the scars was the best evidence of efficient protection. The question was probably one of dose, as in the case of antitoxin in cases of an infectious disease. The scars were numerically a permanent record of the dose. It was admitted that vaccination was a good prophylactic against small-pox. When small-pox invaded a house or other small community where all were equally exposed to infection, some escaped and others were attacked. Among those who had had small-pox previously, personally-collected statistics showed that 1 in 20 were attacked a second time. But vaccination did not afford this degree of protection. If only vaccinated once in childhood, about 25 per cent. were liable to contract the disease when living in a small-pox atmosphere. Recently-vaccinated persons were much more powerfully protected than the more remote; about 1 in 7 contracted the disease. Revaccination properly performed conferred practically absolute and final immunity. In children under 10 vaccinated in infancy, liability was about 1 in 11 or 12; but 2 out of 3 of unvaccinated were likely to take the disease on being exposed to infection for the first time. These results, it was pointed out, were based on a relatively few cases—some three epidemics.

Dr. Albert E. Cope stated that he represented the body of public vaccinators and referred to his methods of vaccination. The arm in the case of infants, which had been washed by the mother, was first rubbed with a pledget of boric wool saturated in rectified spirit and then dried with a pledget of dry wool. For revaccination a 20 per cent. carbolic soap was used with which to wash the arm. The water was boiled, a pledget of wood wool was used to apply the soap, the excess was rapidly washed off with water or rectified spirit, and the arm was dried with a similar pledget. The instrument he had found most useful was a lancet made of platinum, hardened with iridium, so that it might be flame sterilised. The best ejector of the lymph from the tube was a solid rubber bulb with a funnel shaped perforation through which the tube was passed and the outer aperture closed by the thumb before compression. Lymph was placed on the arm and the skin was lightly scratched through it; the faintest trace of blood being drawn. An interval was allowed, until an erythematous reaction was visible, when a boric pad was applied and strapped on. This was allowed to remain for a week, then a powder of boric acid, zinc, and starch was applied under another boric pad. The most troublesome complication he had had was an eczema, occurring under the strapping, which subsided readily under the application of calamine lotion. Complications of any kind were very rare. Revaccination was obtainable at about 14 after good vaccination in infancy; it would be well to arrange for it to be done on children before leaving school, so that later it should not interfere with the daily work of adult life. This might well be made a Government regulation.

Dr. Blake asked what constituted a successful revaccination, referring to differences of result in different people on using lymph from the same tube? Also, what was meant by the statement that successful vaccination might occur several times within a few months in the same person?

Dr. Churchill asked if there was any age beyond which vaccination might safely be discarded. It was probable that persons of all ages were liable to contract the disease. It was a question whether the present epidemics of small-pox were really so effectively controlled by improved methods as in the earlier epidemics by rougher measures. It was possible that the more elabor-

ate procedures acted as a deterrent against vaccination being universally had recourse to.

Dr. BERNARD O'CONNOR asked whether a second or third revaccination was necessary; theoretically he had thought revaccination should be continued until it failed to produce any result.

Dr. MIVART alluded to a keloid condition which was sometimes associated with scars, and remarkably so in the practice of particular vaccinators.

Dr. COPEMAN, in reply, stated that glycerine had a gradual inhibitory effect on micro-organisms that were non-spore-bearing. The spore-bearing organisms at all likely to be present were of no pathogenic importance. The same dose or amount of vaccination was probably desirable in the child as in the adult. Probably a greater effect, however, relatively to the size of the individual was obtained in the adult. There was at present no efficient method of standardization of lymph—the only useful test was the clinical result. It was not possible as yet to afford the same degree of protection by injecting an antitoxin serum into the system. With the use of glycerinated lymph there was not the same destruction of skin tissue as even in what was considered perfect vaccination of years ago. It was essential that all persons should be revaccinated at least once in later life. If no effect had followed the use of lymph which subsequently was suspected of being inert an interval of at least a month should be allowed to elapse before revaccination, because a slight local immunity was produced even by inadequate vaccination. In recent methods there was probably no weakening of the lymph by mixing with glycerine as compared with the old arm-to-arm method, for it was believed that the microbes of vaccinia were contained in the epithelial cells which were removed in the pulp from the calf, while in vaccination from the human arm only the fluid from the loculi was taken.—*The British Medical Journal.*

VETERINARY SOCIETIES.

NORTH OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

A meeting was held in Marischal College, Aberdeen, on Saturday, February 1st, Mr. J. McLauchlan Young, President, in the chair. The members present were Messrs. Anderson, Bell, Beattie, Cowie, Cumming, Crabb, Fowlie, Howie, Ironside, Murray, McPherson, McBryde, McGregor, Old Deer; Sievwright, and Secretary; visitors: Professor Hamilton, Aberdeen; and Mr. Inglis, Forfar.

Apologies for absence were received from Messrs. Peddie, McLaren, McDonald, Morrison, and Gunn.

PRESIDENTIAL.

Mr. J. M'LAUCHLAN YOUNG said:—In taking the chair that day as president of the Society he desired to thank them for the honour they had done him, although of late he had not been able to do all he would have wished for the society. He assured them he appreciated the position, and was deeply sensible of its responsibilities, and he pledged himself to do what he could during his term of office to further the objects of the Society. He need not ask for the assistance and co-operation of the members, as he had seen, since joining this Society, that the gentleman elected president was assured of every support from its members—(hear, hear.) Again, the proceedings at the meetings had always been, from a social point, enjoyable, and from an educational point, instructive, and the tribute he would pay to those who had before him occupied this chair, was the hope that he should in no way disturb the equanimity of the meetings, nor detract in the least from the value of their deliberations.

He found from the reports of other associations it was customary for the president to choose as the text of his address a review of the profession during the past year. But with their permission he should like to leave the beaten track and instead of looking backwards look forwards. He agreed with those who might think he had chosen the more dangerous path, as it was safer to look back and speak of things the existence of which has been laid bare than to peer forward and speak of things which, if they did exist, were still shrouded in futurity. Still he was sufficiently bold to imagine he saw indications not only of their profession being recognised by the universities but of their professional education forming part of the curriculum of all universities. And why not? Was their entrance or preliminary examination not now equal to that of the medical profession? This made it that the two aspirants—the medical and the veterinary—started on an equal footing as far as general education was concerned. At their colleges were to be found men as eminent and as able teachers of veterinary science as were found imparting knowledge to the medical students, and their examinations exacted a degree of proficiency that made it imperative that the veterinary surgeon on graduating be as well armed to fight his way in his own profession as the medical graduate was in his. (Hear, hear.)

He (the chairman) fancied he could hear something about social status. He at once silenced the mumbler by saying that the status was exactly what they themselves made it—(hear, hear.) But why should he single out this particular point from the multitude that lay in the future and the many that would certainly affect the profession in time to come. It was because he thought the time was now ripe when they as a profession should bestir themselves and approach the universities to grant some qualification or a degree so that the profession would then be on equality with the other learned professions. By that he did not mean that the teaching at the colleges at present should be in the least affected, but that it should be open to a member or a Fellow of the R.C.V.S. to proceed to a university, and, after a certain course obtain an additional qualification which would have all the advantage of being a degree or diploma from the highest institute of learning in our country, viz., a university. This qualification might be taken in science, or pathology, or bacteriology, but to his mind it would be much more valuable if taken in public health, as he considered there was a big future before the members in public health and sanitary science. Indications were not wanting that they would have in time in every large city and in the counties a veterinary officer of health, acting with the medical officer of health, in suppressing and in preventing disease and in every way possible safeguarding the public interest. If they looked forward to such a field, surely it was in their interest to qualify and show to the public that they were qualified to hold such important and responsible positions. He was fully aware from the curriculum of the colleges that when a man took his M.R.C.V.S. he had already been trained and examined in the subjects pertaining to such an office. But was the public aware of this? Did the public not look upon them as animal physicians and surgeons pure and simple, and as making no pretence to be able to interpret and administer the many laws relating to public health? He was inclined to think it did, and the few—too few—examples where veterinary surgeons have been appointed to somewhat similar offices and were discharging their duties to the manifest benefit of the community, had not yet convinced the authorities that they were any more than animal doctors. By possessing some diploma in public health it would show to authorities and the public generally that not only had veterinary surgeons been educated in the causes and treatment of the diseases of animals, but that the holder had devoted special study to their prevention and suppression and to-

the intricacies of public health law—(hear, hear). A medical man, be he even an M.D., must hold a diploma in public health before he could be appointed to a city of over 30,000 inhabitants, so that they need not argue that the membership of the R.C.V.S. was a sufficient qualification in public health for them. The higher degree would be of far more benefit than in simply helping them to obtain public health appointments, as the lectures delivered by the professors of Medical Jurisprudence and Bacteriology and Pathology would add a fund of knowledge to the young veterinary surgeon, and encourage investigation, which did not receive the attention it deserved by veterinary surgeons. Having but little time at his disposal, he brought the subject before them on the one plea of public health only, and no university would offer a degree unless there was an evident desire for it, so that they must take the initiative and present a petition to some university, and be prepared to attend at the university and press what to his mind was their legitimate claim. There was no doubt that the court would consider such a petition favourably, and if a sufficient number of candidates would come, grant facilities whereby an additional and higher qualification might be obtained.

At the opening of the Dick College last year, Professor Hamilton advocated the university recognition of their profession, and said the mixing of veterinary and medical students, while studying pathology and bacteriology, would be a mutual advantage. This no one could deny, when it was considered how inseparable was the study of human from that of animal pathology. At present in this country there was but one direct university appointment—a position which he had the honour to hold in their own university there — but several universities recognised the teachings of other lecturers. This was the case in Edinburgh and Glasgow, so that the veterinary profession was not altogether unknown at their university courts. From his own experience, he knew of no other academic institution where the veterinary surgeon had so many distinguished friends as in their own university, where they had then met, for was not Professor Hamilton a member of their examining board, and did he not take more than a deep interest in the diseases of animals as evidenced by his appointment as chairman of the Royal Commission — (hear, hear). Having had the honour to be associated with Professor Hamilton in several investigations, he (the chairman) could speak of the interest the professor had in their profession, and how much he would welcome lecturing to and teaching young veterinary graduates under university auspices. Again, was not Professor Arthur Thomson lecturing at the Dick College before coming to Aberdeen, so that he had a practical connection with the profession. From many conversations with Professor Matthew Hay, he (the chairman) knew Professor Hay would—like Professor Hamilton –welcome veterinary students to his class on Forensic Medicine. But it was not for the friends of the profession, but for the profession itself to be up and doing: if there was a necessity and a desire for such a qualification, and if that society considered the subject favourably, something might be done to bring it before the profession at large, and, who knows, instead of being but a dream of the future, it might shortly become a reality—(applause).

Professor HAMILTON said he could only reiterate what their president had so well put before them. The fact had been long apparent, he thought, to the public generally that the veterinary profession had been at a very great disadvantage in many respects compared with the medical profession. In fact, the profession had been a matter of private enterprise, and the best of their colleges in Scotland were private enterprises They were not recognised by the State, as it were, nor had they any connection with the universities. It seemed to him that the time for this sort of relationship was entirely past. Veterinary science in the future must take a very much higher place in the affairs of the country than it had in times gone by. Knowledge of the diseases of animals had grown tremendously of late years, and the means of prevention and so on had been so thoroughly worked out and elaborated in regard to many of the disastrous diseases of the lower animals that it seemed to him the time had gone by in which the training of veterinary surgeons should be entrusted to private enterprise. This seemed to be forced upon them by the fact that the war authorities stated that the warfare of the future would be a horse warfare. The stupendous loss of horses in the present war through diseases that were little known to the military vets. made it imperative that they should have men thoroughly competent to understand varying diseases under various conditions. The men should have an opportunity of studying not only the diseases of horses in this country, but also the diseases peculiar to other countries, and especially our colonies. He thought that a very strong argument for the veterinary profession receiving a much wider recognition than it had at the present day. He had long thought that the studying of comparative pathology ought to be a matter taken up by the universities. They all knew that there was much relationship in the studies of medical and veterinary students, and he held that the study of pathology ought to be comparative all through. He did not see that there was any objection against members of this profession attending his classes or any other classes where the instruction would be of such a nature. It seemed to him that if the medical students received some further knowledge of the diseases of lower animals and the veterinary students received knowledge of the diseases peculiar to man, the benefit would be lasting. He thought the matter of a degree for veterinary surgeons was coming, and thought the universities might grant a higher diploma, which he thought would be extremely appropriate. He concluded by expressing his pleasure in being present to take part in the discussion and give the matter his support.

Mr. M'BRIDE, Strichen, stated that he agreed with what the President had said, and that such a degree might come to be necessary in time. Perhaps this might be the beginning of it. But he thought at the present time those who were country practitioners could scarcely enter into that. It would remain to be acquired by the students who were under the new rules, and it might be in their power to push on matters in that direction.

The PRESIDENT, replying to Mr. Crabb, New Aberdour, said the ordinary course for the medical diploma in public health lasted about six months, though of course it might be acquired in less.

Mr. HOWIE, Alford, thought this matter was for the students of the future more than those of the present day. Perhaps universities might recognise veterinary colleges, or take them under their wing, so that part of the university education might be to take a part of veterinary education. As to an extra degree, he thought it would be a hardship for practitioners to leave their practice in the hands of assistants for several months so that they might be able to graduate for an extra degree or diploma. Probably, on coming back, they would find a good bit of their former practice gone. But if means could be devised whereby students of the future could be educated to take this extra degree and qualify them for public health appointments, he was of opinion that it would be a very good thing for the profession. He thought what they should aim at was to get the universities to recognise the veterinary colleges or take them over.

In the absence of Mr. D. Morrison, New Deer, the Secretary (Mr. Baxter, Elgin) read Mr. Morrison's paper

on "Some of the Diseases Incidental to Pregnancy in Animals."

The SECRETARY also read a communication from Mr. James Murray, Cullen, giving a case which he had attended where two horses died quite suddenly by eating leaves of the Irish yew.

The meeting decided not to send delegates to the forthcoming conference of the Sanitary Congress to be held at Manchester.

Mr. IRONSIDE, Traves, was proposed and admitted a member of the Society.

THE LATE MR. KIDD, ROTHIEMAY.

The CHAIRMAN made a brief reference to the death of the late Mr. Kidd, veterinary surgeon, and said he felt his death a little more, personally, than perhaps the others, as he was the means of getting an appointment for him in South Africa. Deceased had gone out to join the forces there, but, unfortunately, never got so far up country, for he was stricken down with enteric and died. On the proposal of the President, the Secretary was asked to write to Mr. Kidd's relatives expressing the Society's sympathy with them in their bereavement.

Before concluding, a hearty vote of thanks was awarded the Chairman for his address, on the motion of Mr. Fowler, and it was also agreed to thank Mr Morrison for his paper.

TRANSIT OF CATTLE.

On Saturday, 18th ult., in King's Bench Division, Dublin, before the Lord Chief Justice, Mr. Justice Gibson, and Mr. Justice Wright, judgment was given in the case of Ml. Murphy v. Midland Great Western Railway Co. The plaintiff, who resides at Ballinrobe, Co. Mayo, claimed £240 damages for alleged breach of duty by the defendants in relation to the carriage of certain cattle, the property of plaintiff, from Moate to Carlisle, on 2nd October, 1899, and for negligence in and about their carriage and delivery. The plaintiff alleged that fifteen of the cattle were killed and fifteen injured on the journey. The defendants traversed all the causes of action, and alleged that the contract entered into was subject to certain just and reasonable conditions, and that they had charged a reduced rate for the carriage, which exempted them from liability, and that the loss and injury sustained occurred upon the sea portion of the journey on board the steamer, the *Duchess of Sutherland*, and were covered by the exemptions in favour of the defendants in the said conditions. The defendants brought £15 15s. into Court, and said it was sufficient to cover the damages complained of. The trial took place before Mr. Justice Madden and a special jury, and resulted on 30th April last in a verdict and judgment for the defendants. The plaintiff now applied that this judgment be set aside and a new trial granted, or other order made, mainly on the ground of alleged misdirection o. non-direction by the learned judge. A further question about ownership arose.

Mr. Justice Wright, in delivering judgment, said it was admitted on behalf of the plaintiff that no notice of his claim against the defendants had been given in writing within three or seven days, as required by the conditions of the railway company. The first question was whether that condition was just and reasonable under the statute. He thought the condition unfair as regards the carriage of live stock. A reasonable time for communicating with the employer ought to be allowed. Men engaged in the cattle trade were not stationary—they moved about from fair to fair, and there often would be some delay. He was, therefore, of opinion that the time limit was too short, and unfair, and that no fair alternative was offered; and that accordingly the judgment of the learned judge could not be upheld. That disposed of the main contention in the case, and it was of such importance that they were informed it would be carried to the court for ultimate appeal. The second question was the right of the plaintiff to maintain the action on the ground that he was not the owner of the cattle, but the buyer for a man named Coyle, who had died before the action was brought. The jury found that the cattle were Coyle's, and he did not see how they could have found otherwise. Murphy, in making the contract with the company, was acting as agent for Coyle. On the second point he thought judgment ought to be given for the defendants.

Mr. Justice Gibson said he could not understand how a railway company could, by a condition, obtain immunity from damages for a loss which amounted to a trover. Take turkeys sent at Christmas season stopped in transition, or a cask of spirits tapped by a servant of the companies—losses which could not be discovered for some time—how could the company protect itself from liability by any time limit. With regard to the finding as to the ownership, he said the proper person to sue the carrier was the person who employed him. Ownership of goods, though important, was not decisive. There was a special contract between the plaintiff and the defendants, and a plaintiff acting as agent for an undisclosed principal could sue on a contract made in his own name, unless and until, the principal intervened. The defence denying the right of the plaintiff to maintain the action on contract should be distinctly pleaded. If amendment was allowed—and Mr. Justice Wright thought it ought—it should be on the condition that the defendants got no costs up to the date of amendment.

The Lord Chief Justice held that the condition was reasonable. They were unanimous on the point that trover and detinue could not be maintained, as the plaintiff was not the owner. The railway company should have reasonable protection, as well as the members of the cattle trade. The persons receiving the animals should know whether the cattle were then all right or not. Taking horses, he would prefer the opinion of the dealer as to the condition of the animal to that of the average veterinary surgeon. On these grounds he was in favour of the defendants on all the questions.

The result of their lordships' judgment was that the Court, by a majority, decided to refuse the motion, without costs of the law argument, but the defendants to have their costs of the trial.

Mr. O'Shaughnessy suggested that if an undertaking were given binding the executors of Coyle that the litigation, with respect to these particular cattle, would now terminate he would not press for costs of the trial.

Serjeant Dodd said his client adopted that suggestion, and he would take steps to get the consent of the executors of Coyle.—*Meat Trades' Journal.*

A HORSE TRANSACTION—"SPRAINED LIGAMENT."

At the Bristol County Court on Tuesday, January 27th, His Honour Judge Austin had before him the case of Thomas *v.* Hardwicke. The plaintiff, a veterinary surgeon and horse dealer, of Taunton, sued the defendant, Mr. Hardwicke Lloyd Hardwicke, of Tytherington Grange, Falfield, Gloucestershire, for £100 in respect of a cheque drawn by the defendant and afterwards stopped.

Mr. F. E. Weatherly (instructed by Messrs. Reed and Co., Taunton) was for the plaintiff, and Mr. Douglas Metcalfe (instructed by Messrs. Burges and Sloan) represented the defendant.

His Honour at the outset said the burden of proof of action was with the defendant, on account of the defence set up.

Mr. Metcalfe, in opening, said that on August 1st there was an agricultural show at Tiverton, and this was attended by both the plaintiff and the defendant, the former having with him the horse which was practically the cause of the present action. The defendant agreed to purchase it for £115, subject to veterinary examination. On August 3 the defendant received a telegram from Thomas to the effect that the horse had been passed sound, and inquiring when it should be sent on. The defendant sent his veterinary surgeon—Mr. James, of Thornbury—to Taunton. On examination he found that there was a swelling of the ligaments under the fetlock of the off fore leg. He asked Mr. Thomas about it, and his explanation was that the horse had injured the leg when taking a fence. On this Mr. James tested the horse in jumping, and returned to Mr. Hardwicke, reporting that the horse was sound, but not a clean jumper. On August 10 the defendant forwarded a cheque for £100, and promising the balance if the horse proved a good jumper. On the horse arriving at Tytherington, the joint, which was still swollen, was subjected to cold water treatment. On the swelling going down it was seen that the cause of the trouble was an enlargement of the ligaments of the off fetlock joint. Mr. James, on examination at the defendant's place, confirming this, the plaintiff was written to and the cheque stopped. The learned counsel said that by agreement the horse was sold under the hammer at Cheltenham, and, after payment of expenses, realised 60 guineas.

The defendant was called, and he spoke of seeing the horse at Tiverton, and how, through Mr. Jack Goodwin, he negotiated for purchase. On the horse arriving at Tytherington he saw the condition of its leg. He had seen horses with filled legs caused by jumping, but he had never seen a horse marked in this way. The hair was off the leg, but with no sign of skin injury. He believed that the marks were due to the application of acid. Ultimately the horse was sold and the money lodged in the bank. The horse passed into the hands of Mr. Holborow, of Berkeley Road, who had had to keep it in cotton wool ever since—(laughter). It had not done any work since—at least, he thought so.

John Clark James, veterinary surgeon, Thornbury, deposed to going to Taunton to examine the horse. He noticed that the off fore leg was filled, and the plaintiff replied that they had been jumping him, and that he had got his leg in a fence. Witness closely examined the limb, and found that the skin had been denuded in a very particular way. There were three straight streaks on the inside of the off fore leg, and one on the outside. The swelling was so great that it was impossible to feel the outline of the ligament. Witness accepted the plaintiff's statement as to the cause. Later the horse was jumped on the plaintiff's farm. The horse was put at a small hedge, bank, and ditch—no obstacle, in fact, to cause an injury. The horse was not a clean jumper, as a hunter should be, but scrambled at the fences. Witness next examined the horse on the 13th. The filling had gone down, and he then noticed that there was a permanent thickening of the ligament.

His Honour: Then you knew that you had been taken in by Thomas?—Yes.

How do you account for the swelling?—I cannot say how the dealers do it, but they use a chemical which will bring up a swelling similar to the application of a blister, and this will remain for a week. The swelling, in his judgment, was brought about by unfair mechanical means.

His Honour: In other words, the horse was "faked" to hide the permanent enlargement of the ligament?—That is exactly it, sir.

Mr. W. R. Jermyn, veterinary surgeon, spoke of his examination of the horse on August 31, and to finding chronic enlargement of the inside branch of the suspensory ligament of the off fore leg. This constituted unsoundness, and he certified to that effect. The marks on the leg were not occasioned by injuries in jumping. He believed that the marks on the leg were produced designedly.

Mr. Frank Leigh, veterinary surgeon, was called, and informed the court that the present owner of the horse had declined to allow him to examine it. Questioned on facts deposed to by other veterinary surgeons called, witness said the mere swelling deposed to by Mr. James did not constitute unsoundness; but chronic enlargement certainly was, and if, after the swelling or filling of the leg had subsided, witness found enlargement of the ligament, he should not have certified that the horse was sound.

Plaintiff, on being called said he had practised for years as a veterinary surgeon at Plymouth, and latterly had been at Taunton. The horse in question was his, and had won a prize in a strong class of hunters at Sherborne. At Tiverton the horse was again shown. Defendant was there, and made inquiries about the horse. Plaintiff took no part in the deal, which was carried out by Mr. Jack Goodwin. The top price asked was £125, and ultimately it was agreed to take £100 for it, and £15 additional if it proved a good jumper. The proviso on his part was that defendant purchased pending veterinary examination. The horse had not been faked in any way, either by the application of chemicals, or the application of a tight ligature. Mr. James examined the horse thoroughly, had it galloped and jumped, and himself got into the saddle. Plaintiff objected to the horse being jumped, saying that it was not in the contract, and the ground was much too hard. James insisted, and the horse was jumped. The horse did not perform as well as he should, and blundered in the thorn thickset. The swelling in the leg was not pointed out by James until after the jumping. Before this the leg was quite clean, and plaintiff said the swelling must have been caused by the jumping. Plaintiff denied that he told James that the swelling was caused by jumping a day or two before the trial. As a matter of fact, the horse had never been jumped whilst it was in his possession. He considered the horse was sound when passed by Mr. James.

Mr. George Hill Elder, practising at Taunton as a veterinary surgeon, deposed to knowing the horse in question for many years. It had a thickening of the ligament when purchased by Sir Joseph Trutch, and it had it when it came into Mr. Thomas's possession, only not so bad as it was three years before. Witness examined the horse, Mr. Thomas saying that defendant was about to purchase it, and would require him to do it. Receiving no instructions from Mr. Hardwicke, when the latter called on him, he declined to have anything to say, especially having an idea that litigation was pending. Any veterinary surgeon would have noticed the enlargement of the leg, even by a casual examination.

Francis William Ronsden, former groom in the employ of plaintiff, said he had known the horse since it had belonged to Mr. White. It had been hunted regularly, and had never shown lameness, although it had always had a slight enlargement of the leg. Witness jumped the horse for Mr. James's inspection. It did not show well, and knocked its legs about a bit.

Other witnesses were called, who spoke in like manner of the horse.

Mr. Apperley, of the Paddocks, near Cheltenham, said he purchased the horse at an auction for 61 guineas, and sold it three days later at a good profit. His purchaser was Mr. Holborow, of the Prince of Wales Hotel, Berkeley Road. The price he got for it was 90 guineas. He had ridden it and jumped it, and considered it a good horse.

Mr. Holborow said he had the horse still, and was content with his bargain. Since this bother about it

he might have expressed a wish that he had not purchased the horse.

Mr. Weatherly addressed the court at length, severely criticising some of the evidence tendered by the defence, which, he said, practically advanced a charge of conspiracy.

Mr. Metcalf said he should ask his Honour to say whether the horse was unsound, and secondly, if that unsoundness was wilfully concealed from Mr. James and Mr. Hardwicke in order that there should be a more ready sale. If this were so, defendant was entitled to a verdict.

His Honour, in giving judgment, said that defendant admitted that his veterinary surgeon passed the horse but that this was set aside owing to the fraud practised by plaintiff. Taking this ground, onus of proof was transferred to defendant, and he had to substantiate the charge of fraud. In his (the learned judge's opinion), this had not been made out. Whatever was the injury to the horse's leg he thought was due to the jumping done at the instance of Mr. James. He (the learned judge) did not think there had been any attempt by Thomas to defraud defendant. The verdict must therefore be for plaintiff with costs.

NOTES ON BOOKS.

HORSE PURCHASING OF "SORTS."

We can recommend our readers to lay out the sum of 7d. on the report of the Committee on horse purchase in Austro-Hungary, and study it. The evidence contains some astounding revelations.

We particularly noted the evidence of Col. Hathain, R.H.A., para. 1460, "I am almost a passed veterinary surgeon;" and Col. St. Quintin, para. 701, "I know that Colonel Maclean is just as good a veterinary surgeon as Hartigan" and again "If I go to buy horses I do not want a veterinary surgeon nor does Colonel Maclean."

We have heard from across the channel that "the almost passed veterinary surgeon" commanded a battery of artillery amongst the horses of which mange existed for many weeks, but which he diagnosed as "prickly heat" a skin affection well known amongst man and beast in India's torrid clime, but which *mirabile dictu* manifested itself in the County Kildare in the depth of an Irish winter. We can quite understand that Colonels St. Quintin and Maclean "do not want a veterinary surgeon" when they purchase horses for the public, but we question their assuming such "undivided responsibility," if for themselves when the price came out of their own pockets. This is, however, a common delusion amongst many worthy military gentlemen, we are constantly meeting such.

We have been told on high legal authority that the war is over and that only "a sort of a war" is going on at the rate of a million a week.

It would appear also that the horse purchasing operations of the Government are conducted by "a sort of" a purchasing committee composed of "sorts" of amateur veterinary surgeons, "captains, and colonels," and the man who has come off best is he who was casually met in the Haymarket, and who appeared to be the "sort of" gentleman capable of persuading the colonels who "do not want a veterinary surgeon" into allowing him to make a profit of £11 16s. 8d. per head on the 1500 cobs. In truth the prospect of a two shilling income tax looks promising.

Personal.

His Excellency the Lord Lieutenant, K.G., held his first Levee of the season in Dublin Castle on Tuesday, 4th inst. The following names are in the list of those presented: Professor A. E. Mettam, Royal Veterinary College of Ireland; Vet.-Col. R. Pringle (presented by H.R.H. the Duke of Connaught); and Vet.-Lieut.-Col. S. Longhurst.—*Irish Times.*

ARMY VETERINARY DEPARTMENT.

Extract from *London Gazette*:

WAR OFFICE, PALL MALL, Jan. 21.

IMPERIAL YEOMANRY.—5th Batt.—Temporary Vet.-Capt. T. M. P. Parker, Veterinary Officer, relinquishes his commission and is granted the honorary rank of Vet.-Capt. with permission to wear the uniform of the corps.

OBITUARY.

GEORGE BALLS, F.R.C.V.S., Streatham Hill, Surrey. Graduated, Lond: May, 1843.

The death of Mr. Balls took place at his residence, Ferndale, Streatham Hill, S.W., on Monday 3rd inst., after only three days illness. He was 80 years of age.

CORRESPONDENCE

TREATMENT OF FOOT-AND MOUTH.

Sir,

In looking over *The Veterinary Record* for the 11th inst., I find on page 425 an abstract of an article on the "Intravenous injection of corrosive sublimate," and in the first paragraph thereof the statement is made that as a result of the injection in that particular case the temperature speedily dropped from between 40·5 C. and 41·5 C. to 30 C. Translated into "Fahrenheit" that means that the temperature ranging between 104·9 and 106·7 was brought down to 86°! A misprint surely, for I cannot help thinking that if had fallen so low as that it would never have gone up again; and as we are told the animal recovered, I suppose it did. I should be glad to know.—Yours faithfully,

W. W. GULLIFORD, V.S.

RE ALLEGED CRUELTY TO A RACEHORSE.

Sir,

In your report of the above case I am reported to have said in reply to Mr. Cancellor, that "if the animal was not poulticed at once inflammation would at once set up." Permit me to observe I was not asked that question, neither did I make that reply.—Yours faithfully,

JOHN B. TUTT.

55 Southgate St., Winchester.
January 2.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED.—Messrs. W. S. Stevens, J. B. Tutt, Arnold Spicer, E. W. Hoare, J. R. McCall, Matthew Graham, J. Evans, P. J. Simpson, Clement Baxter, J. J. Vahey.

The Adaptability of Saddlery and Harness, Six Lectures by Col. J. A. Nunn; "*Horses on Board Ship*," by Capt. M. H. Hayes, *The Irish Times*. Also a news cutting of a court case without name of sender, name of paper, or date.